

What is claimed is:

1. An apparatus for filtering, comprising:

an adsorber for the continual removal of a constituent from a gas; the adsorber including a sump, a media bed, and an exhaust chamber;

5 a chemical fluid entering the exhaust chamber;

a regenerate contact surface formed by a periodic deposit of the chemical fluid from the exhaust chamber on the media bed; and

a control means for controlling the periodic deposit of the chemical fluid;

wherein the sump includes a gas inlet for receiving the gas; and

10 wherein the adsorber is configured to allow the gas to flow from the gas inlet to the regenerate contact surface so that at least some of the constituent is retained by the chemical fluid upon contact of the constituent with the chemical fluid thereby reducing the amount of constituent in the gas flowing out of the exhaust chamber.

2. The apparatus of Claim 1, wherein the exhaust chamber includes a chemical port having
15 one end of a chemical fluid supply line connected thereto.

3. The apparatus of Claim 2, wherein the chemical fluid includes a mixture of a chemical and water, and the sump further includes a chemical inlet to receive the chemical, a water inlet to receive the water, and a chemical fluid outlet connected to the other end of the chemical fluid supply line.

20 4. The apparatus of Claim 3, further including a pumping means to pump the chemical fluid from the sump to the exhaust chamber via the chemical supply line.

5. The apparatus of Claim 1, wherein the media bed is composed of activated charcoal.

6. The apparatus of Claim 1, wherein the media bed is composed of volcanic rock.

7. The apparatus of Claim 1, further including a controller for automatically controlling the periodic deposit of chemical fluid.
8. The apparatus of Claim 7, wherein the controller is a program-logic control device.
9. The apparatus of Claim 1, wherein the chemical fluid includes a mixture of water and
5 sodium hydroxide.
10. The apparatus of Claim 9, wherein the percent of sodium hydroxide to water is from about .010 percent to about 2.0 percent.
11. The apparatus of Claim 9, wherein the percent of sodium hydroxide to water is from about .025 percent to about 1.0 percent.
- 10 12. The apparatus of Claim 9, wherein the percent of sodium hydroxide to water is from about .040 percent to about .750 percent.
13. The apparatus of Claim 9, wherein the sodium hydroxide constitutes approximately one-half of one percent of the chemical fluid mixture.
14. The apparatus of Claim 9, wherein the chemical fluid has a potential of hydrogen (pH) of
15 approximately thirteen.
15. The apparatus of Claim 9, wherein the chemical fluid further includes a water softener to remove calcium from the water.
16. The apparatus of Claim 1, further including a standby tank containing a chemical additive for addition to the chemical fluid.
- 20 17. The apparatus of Claim 16, wherein the chemical additive is chlorine.
18. The apparatus of Claim 1, wherein the constituent is an odor-causing agent.
19. An apparatus for the removal of a contaminant from a gas, comprising:
a chemical fluid;

an adsorber having a regenerate contact surface for the substantially continual removal of an contaminant from a gas;

a control means for controlling a periodic deposit of the chemical fluid on the regenerate contact surface, at least a portion of the contaminant in the gas being retained by the chemical fluid upon contact of the contaminant with the chemical fluid thereby reducing the amount of contaminant in the gas, the periodic deposit of the chemical fluid on the regenerate contact surface acting both to remove the retained contaminate from the regenerate contact surface and to re-establish the chemical fluid on the regenerate contact surface.

20. The apparatus of Claim 19, wherein the periodic deposit of the chemical fluid on the regenerate contact surface is done at least once every twenty-four hours.

21. The apparatus of Claim 19, wherein operation of the adsorber and the periodic deposit of the chemical fluid is automatically controlled by a controller.

22. The apparatus of Claim 21, wherein the controller is a program-logic control device.

23. The apparatus of Claim 19, wherein the chemical fluid is a mixture of water and sodium hydroxide.

24. The apparatus of Claim 23, wherein the percent of sodium hydroxide to water is from about .010 percent to about 2.0 percent.

25. The apparatus of Claim 23, wherein the percent of sodium hydroxide to water is from about .025 percent to about 1.0 percent.

26. The apparatus of Claim 23, wherein the percent of sodium hydroxide to water is from about .040 percent to about .750 percent.

27. The apparatus of Claim 23, wherein the mixture of water and sodium hydroxide has a potential of hydrogen (pH) of approximately thirteen.

28. The apparatus of Claim 23, wherein the sodium hydroxide constitutes approximately one-half of one percent of the chemical fluid mixture.

29. The apparatus of Claim 19, wherein the adsorber further includes an exhaust chamber, a chemical fluid supply line, and a sump;

5 wherein the sump includes an inlet for receiving the gas, the adsorber is configured to allow the gas to flow from the sump to the regenerate contact surface, the exhaust chamber includes a chemical port connected to one end of the chemical fluid supply line for receiving the chemical fluid and for depositing the chemical fluid on the regenerate contact surface, and

10 wherein the sump receives the retained odor-causing agent after removal of the odor-causing agent from the regenerate contact surface.

30. The apparatus of Claim 29, wherein the sump further includes a chemical inlet to receive the chemical fluid and a chemical outlet connected to the other end of the chemical fluid supply line.

31. A method for filtering, comprising the steps of:

15 (a) providing an adsorber having a regenerate contact surface for the substantially continual removal of a constituent from a gas;

(c) depositing a chemical fluid on the regenerate contact surface;

(b) contacting the gas with the regenerate contact surface so that at least some of the constituent is retained by the chemical fluid upon contact of the constituent with the chemical
20 fluid thereby reducing the amount of constituent in the gas; and

(d) periodically re-depositing the chemical fluid to both wash and re-new the capacity of the regenerate contact surface.

32. The method of Claim 31, wherein the periodic deposit of chemical fluid is automatically controlled by a controller.

33. The method of Claim 31, wherein the step of depositing chemical fluid on the regenerate contact surface is done at least once every twenty-four hours.

5 34. The method of Claim 31, wherein the chemical fluid is a mixture of water and sodium hydroxide.

35. The method of Claim 34, wherein the mixture of water and sodium hydroxide has a potential of hydrogen (pH) of approximately thirteen.

10 36. The method of Claim 34, wherein the sodium hydroxide constitutes approximately one-half of one percent of the chemical fluid mixture.

37. The method of Claim 31, further including the step of receiving retained odor-causing agent washed from the regenerate contact surface into a sump.

38. The method of Claim 37, further including the step of draining the sump to remove the odor-causing agent from the adsorber.

15 39. The method of Claim 38, wherein the step of draining the sump is done at least once every twenty-four hours.

40. The method of Claim 31, wherein the constituent is an odor-causing agent.

41. A method for the removal of an odor-causing agent from a gas, comprising the steps of:
periodically depositing a chemical fluid on a media bed to form a regenerate contact
20 surface; and

contacting a gas having an odor-causing agent with the regenerate contact surface such that at least some of the odor-causing agent is retained by the chemical fluid upon contact of the

odor-causing agent with the chemical fluid thereby reducing the amount of odor-causing agent in the gas;

wherein the periodic deposit of the chemical fluid refreshes the chemical fluid on the regenerate contact surface resulting in the substantially continuous removal of the odor-causing agent.

42. The method of Claim 41, wherein the step of periodically depositing a chemical fluid on the regenerate contact surface acts to remove at least some of the retained odor-causing agent from the regenerate surface.

43. A method for filtering, comprising the steps of:

- (a) providing the apparatus of Claim 1 or 19 for the removal of odor from a gas;
- (b) depositing a chemical fluid on the regenerate contact surface;
- (c) contacting the gas with the regenerate contact surface so that at least some of the odor-causing agent is retained by the chemical fluid upon contact of the odor-causing agent with the chemical fluid thereby reducing the amount of odor-causing agent in the gas; and
- (d) periodically re-depositing the chemical fluid to both wash and re-new the capacity of the regenerate contact surface.

44. A method for filtering, comprising the steps of:

- (a) providing the apparatus of Claim 1 or 19 for the removal of odor from a gas;
- (b) periodically depositing a chemical fluid on the media bed to form a regenerate contact surface; and
- (c) contacting a gas having an odor-causing agent with the regenerate contact surface such that at least some of the odor-causing agent is retained by the chemical fluid upon contact

of the odor-causing agent with the chemical fluid thereby reducing the amount of odor-causing agent in the gas;

wherein the periodic deposit of the chemical fluid refreshes the chemical fluid on the regenerate contact surface resulting in the substantially continuous removal of the odor-causing agent.

5